

FCC 47 CFR MPE REPORT

Nanjing CEC Panda Appliances CO.,Ltd Dongguan Sub-Company

LED TV

Model Number: E2SW5018

FCC ID: 2AMYA126-E2SW5018

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Maximum Permissible Exposure

1、Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2m normally can be maintained between the user and the device.

(a)、Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-10000			5	6

(b)、Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Times E 2 , H 2 or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-10000			1.0	30

Note: f=frequency in MHz; *Plane-wave equivalent power density

2、MPE Calculation Method

$$E \text{ (V/m)} = (30 \cdot P \cdot G)^{0.5} / d \quad \text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

$$P_d = (30 \cdot P \cdot G) / (377 \cdot d^2)$$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained

3、Conducted Power Result

3.1 Antenna 0

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	13.85	24.266	13 ± 1	1.7957	1.512
	2437	13.42	21.979	13 ± 1	1.7957	1.512
	2462	13.73	23.605	13 ± 1	1.7957	1.512
IEEE 802.11g	2412	10.86	12.190	10 ± 1	1.7957	1.512
	2437	10.56	11.376	10 ± 1	1.7957	1.512
	2462	10.80	12.023	10 ± 1	1.7957	1.512
IEEE 802.11n HT20	2412	10.06	10.139	10 ± 1	1.7957	1.512
	2437	10.12	10.280	10 ± 1	1.7957	1.512
	2462	10.48	11.169	10 ± 1	1.7957	1.512
IEEE 802.11n HT40	2422	7.78	5.998	7 ± 1	1.7957	1.512
	2437	7.99	6.295	7 ± 1	1.7957	1.512
	2452	7.95	6.237	7 ± 1	1.7957	1.512

3.2 Antenna 1

Mode	Frequency (MHz)	Peak output power (dBm)	Peak output power (mW)	Target power (dBm)	Antenna gain	
					(dBi)	(Linear)
IEEE 802.11b	2412	13.05	20.184	13 ± 1	1.7957	1.512
	2437	12.90	19.498	12 ± 1	1.7957	1.512
	2462	13.06	20.230	13 ± 1	1.7957	1.512
IEEE 802.11g	2412	9.73	9.397	9 ± 1	1.7957	1.512
	2437	10.18	10.423	10 ± 1	1.7957	1.512
	2462	10.09	10.209	10 ± 1	1.7957	1.512
IEEE 802.11n HT20	2412	9.55	9.016	9 ± 1	1.7957	1.512
	2437	9.70	9.333	9 ± 1	1.7957	1.512
	2462	9.87	9.705	9 ± 1	1.7957	1.512
IEEE 802.11n HT40	2422	7.83	6.067	7 ± 1	1.7957	1.512
	2437	7.77	5.984	7 ± 1	1.7957	1.512
	2452	7.20	5.248	7 ± 1	1.7957	1.512

4、Calculated Result and Limit

4.1 Antenna 0

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
Wi-Fi						
IEEE 802.11b	14	1.7957	1.512	0.00756	1	Compiles
IEEE 802.11g	11	1.7957	1.512	0.00379	1	Compiles
IEEE 802.11n HT20	11	1.7957	1.512	0.00379	1	Compiles
IEEE 802.11n HT40	8	1.7957	1.512	0.00190	1	Compiles

4.2 Antenna 1

Mode	Target power (dBm)	Antenna gain		Power Density (S) (mW /cm2)	Limited of Power Density (S) (mW /cm2)	Test Result
		(dBi)	(Linear)			
Wi-Fi						
IEEE 802.11b	14	1.7957	1.512	0.00756	1	Compiles
IEEE 802.11g	11	1.7957	1.512	0.00379	1	Compiles
IEEE 802.11n HT20	10	1.7957	1.512	0.00301	1	Compiles
IEEE 802.11n HT40	8	1.7957	1.512	0.00190	1	Compiles

4.3 Antenna 0+1

Mode	Power Density (S) (mW /cm2) Antenna 0	Power Density (S) (mW /cm2) Antenna 1	Power Density (S) (mW /cm2) Total	Limited of Power Density (S) (mW /cm2)	Test Result
Wi-Fi					
IEEE 802.11n HT20	0.00379	0.00301	0.00680	1	Compiles
IEEE 802.11n HT40	0.00190	0.00190	0.00380	1	Compiles